

1 **What is claimed is:**

2 1. A system for actively booting a computer
3 system, electrically connected with a storage medium
4 which stores boot codes thereon for initiating an
5 operating system of the computer system, and said system
6 comprising:

7 a non-XIP type storage medium controller accessing
8 the boot codes from the storage medium when
9 said storage medium is a non-XIP type storage
10 medium;

11 an internal buffer coupled to the non-XIP type
12 storage medium controller, storing the boot
13 codes accessed from the non-XIP type storage
14 medium; and

15 a multiplexing storage medium controller coupled to
16 the internal buffer, controlling a central
17 processing unit (CPU) disposed in the computer
18 system to access the boot codes from the
19 internal buffer to initiate the operating
20 system of the computer system.

1 2. The system as claimed in claim 1 wherein the
2 multiplexing storage medium controller disables the CPU
3 before the non-XIP type storage medium controller
4 accesses the boot codes.

1 3. The system as claimed in claim 2 wherein the
2 multiplexing storage medium controller re-activates the
3 CPU when the non-XIP type storage medium controller

4 accesses and stores the boot codes successfully from the
5 non-XIP type storage medium.

1 4. The system as claimed in claim 1 wherein the
2 multiplexing storage medium controller accesses the boot
3 codes directly from the storage medium to the CPU for
4 initiating the operating system when said storage medium
5 is an XIP type storage medium.

1 5. The system as claimed in claim 1 wherein the
2 non-XIP type storage medium is a NAND-type flash memory.

1 6. A method for actively booting a computer
2 system, with access of boot codes from a storage medium
3 to initiate an operating system of a computer system,
4 comprising steps of:

5 determining whether the storage medium is a XIP type
6 storage medium;

7 a CPU disposed in the computer system directly
8 accessing the boot codes directly from the
9 storage medium through a multiplexing storage
10 medium controller when said storage medium is
11 the XIP type storage medium;

12 facilitating a non-XIP type storage medium
13 controller to access the boot codes from the
14 storage medium and then to store the boot codes
15 in an internal buffer, and controlling the CPU
16 to access the boot codes from the internal
17 buffer when said storage medium is a non-XIP
18 type storage medium; and

19 the CPU implementing the boot codes to initiate the
20 operating system of the computer system.

1 7. The method as claimed in claim 6 wherein the
2 step of controlling the CPU further comprising: disabling
3 the CPU by the multiplexing storage medium controller
4 before the non-XIP type storage medium controller
5 accesses the boot codes from the storage medium when said
6 storage medium is a non-XIP type storage medium.

1 8. The method as claimed in claim 7 wherein the
2 step of controlling the CPU further comprising: re-
3 activating the CPU when the non-XIP type storage medium
4 controller accesses and stores the boot codes
5 successfully from the storage medium.

1 9. The method as claimed in claim 6 wherein the
2 non-XIP type storage medium is a NAND-type flash memory.

1 10. A computer system providing a method for
2 actively enabling the computer system, and said method
3 comprising the steps of:

4 determining whether the storage medium is a XIP type
5 storage medium;

6 a CPU disposed in the computer system accessing the
7 codes directly from the storage medium through
8 a multiplexing storage medium controller when
9 said storage medium is a XIP type storage
10 medium;

11 facilitating a non-XIP type storage medium
12 controller to access the codes from the storage
13 medium and then to store the codes in an

14 internal buffer, and controlling the CPU to
15 access the codes from the internal buffer when
16 said storage medium is a non-XIP type storage
17 medium; and
18 the CPU implementing the accessed codes in the
19 computer system.

1 11. The method as claimed in claim 10 wherein the
2 multiplexing storage medium controller disables the CPU
3 before the non-XIP type storage medium controller
4 accesses the codes from the storage medium when said
5 storage medium is a non-XIP type storage medium.

1 12. The method as claimed in claim 10 wherein the
2 multiplexing storage medium controller re-activates the
3 CPU when the non-XIP type storage medium controller
4 accesses and stores the codes successfully from the
5 storage medium.

1 13. The method as claimed in claim 10 wherein the
2 non-XIP type storage medium is a NAND-type flash memory.